

**METHODS OF FABRICATING CONTACTS FOR SEMICONDUCTOR
DEVICES UTILIZING A PRE-FLOW PROCESS AND DEVICES MADE
THEREBY**

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Abstract of the Disclosure

Methods for fabricating a contact of a semiconductor device are provided by patterning an interlayer dielectric of the semiconductor device to form a contact hole that exposes a silicon-based region of a first impurity type. The exposed silicon-based region is doped with a gas containing an element of the first impurity type and a contact plug is formed in the contact hole. Contact structure for a semiconductor device are also provided that include an interlayer dielectric of the semiconductor device having a contact hole formed therein that exposes a silicon-based region of a first impurity type. A delta-doped region of the first impurity type is provided in the exposed silicon-based region. A contact plug is provided in the contact hole and on the delta-doped region.

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